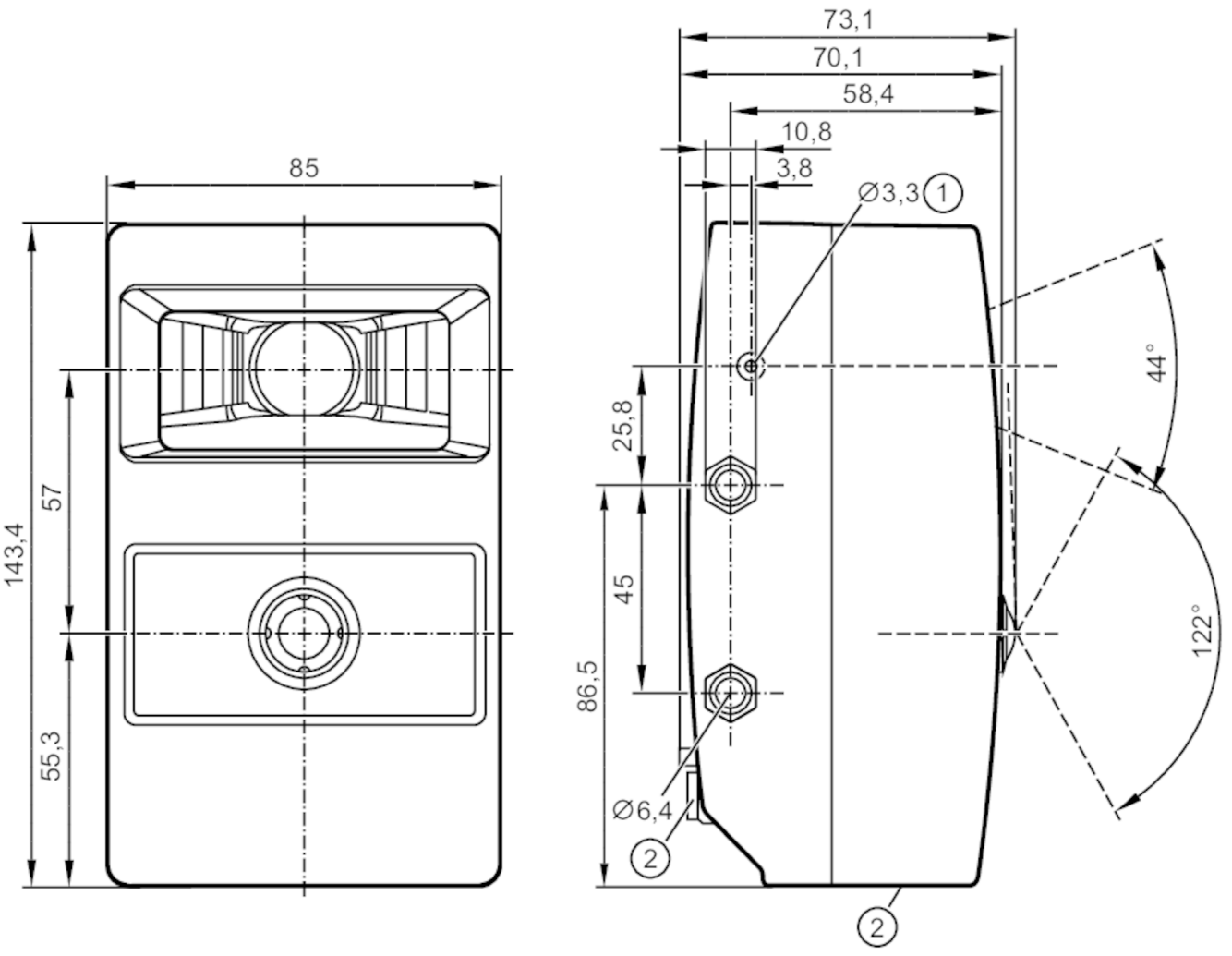
O3M271

3D sensor for mobile applications

O3MXOOKG/CAN/E3/GM/A1/97



1 reference socket
2 connections

Product characteristics		
Type of light		infrared light
Image resolution	[px]	640 x 480
Image resolution 3D	[px]	64 x 16
Angle of aperture	[°]	155 x 122
Angle of aperture 3D	[°]	97 x 44
Image repetition frequency	[Hz]	25
Image repetition frequency 3D	[Hz]	25 / 33 / 50
Application		
Application		output of 3D image data; output of 2D image data
Electrical data		
Operating voltage	[V]	9...32 DC
Current consumption	[mA]	< 600
Power consumption	[W]	4.6

O3M271

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Protection class		III
Type of light		infrared light
Image sensor		PMD 3D ToF-Chip / 2D Chip
Outputs		
Video output		PAL (720x576)
Detection zone		
Image resolution	[px]	640 x 480
Image resolution 3D	[px]	64 x 16
Angle of aperture	[°]	155 x 122
Angle of aperture 3D	[°]	97 x 44
Image repetition frequency	[Hz]	25
Image repetition frequency 3D	[Hz]	25 / 33 / 50
Software / programming		
Parameter setting options		via PC with ifm Vision Assistant
Interfaces		
Communication interface		CAN; Ethernet
Number of CAN interfaces		1
Number of Ethernet interfaces		1
Number of video interfaces (CVBS)		1
Note on interfaces		Output of preprocessed data via CAN interface
CAN		
Transmission rate		250 (125...1000) kBaud
Protocol		CANopen; UDS
Factory settings		J1939 interface: Default
		device address (ECU): 239
		UDS interface: 500 (125...1000) kBaud
Usage type		parameter setting; data transmission
Ethernet		
Protocol		UDP/IP
Factory settings		IP address: 192.168.1.1
		subnet mask: 255.255.255.0
		target IP address: 255.255.255.255
		target port: 42000
Usage type		data transmission
Operating conditions		
Ambient temperature	[°C]	-40...85
Note on ambient temperature		with high image repetition frequency of 25 Hz
Storage temperature	[°C]	-40...105
Max. relative air humidity	[%]	90; (non condensing)
Max. height above sea level	[m]	4000
Protection		IP 67; IP 69K; (with mounted connectors or protective caps)

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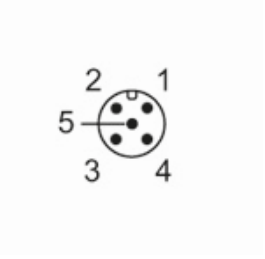
Max. immunity to extraneous light	[klx]	120	
Tests / approvals			
EMC		DIN EN 61000-6-4	industrial environments
		DIN EN 61000-6-2	industrial environments
Shock resistance		DIN EN 60068-2-27	30 g / 6 ms bump
Vibration resistance		DIN EN 60068-2-6	10 g / 10...500 Hz swept sine
		DIN EN 60068-2-64	10...1000 Hz noise
Electrical protection		DIN EN 61010-2-201	electric shock / electrical supply only via PELV circuits
MTTF	[years]	58	
Mechanical data			
Weight	[g]	1154.8	
Dimensions	[mm]	143.8 x 85 x 70.1	
Materials		housing: diecast aluminium; disc: gorilla glass	
Accessories			
Items supplied		Protective covers	
Remarks			
Remarks		The illumination unit is required for the operation of the sensor.	
		Only use original ifm cables to connect sensor and illumination unit.	
		The function-specific performance values can be found in the applicable documentation.	
Pack quantity		1 pcs.	

Electrical connection - CAN

Connector: 1 x M12; coding: A



1	Screen
2	9...32 V
3	GND
4	CAN-H
5	CAN-L

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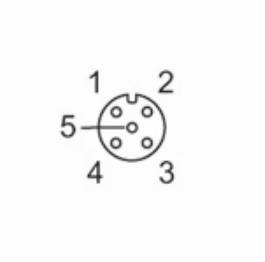
Electrical connection - Ethernet

Connector: 1 x M12; coding: D

1	TD +
2	RD +
3	TD -
4	RD -

Electrical connection - video

Connector: 1 x M12; coding: A



2	not used
3	GND
4	FBAS
5	not used

Other data

field of view size with lens distortion correction

measuring range / distance [m]	Length [m]	Width [m]
5	11.3	4.0
10	22.6	8.1
15	33.9	12.1
30	67.8	24.2

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measuring range for object recognition

object type / object size	application condition	Measuring range [m]
vehicle	sunny (~120 klx)	0.25...17
	cloudy (~20 klx)	0.25...25
	darkness	0.25...29
person	sunny (~120 klx)	0.25...7
	cloudy (~20 klx)	0.25...10
	darkness	0.25...12
retroreflector	sunny (~120 klx)	1...24
	cloudy (~20 klx)	1...35
	darkness	1...46
software variant:	OD object recognition	

measuring range for ROI

application condition	Measuring range [m]
	typical value
sunny (~120 klx)	0.25...7
cloudy (~20 klx)	0.25...9
darkness	0.25...17
software variant :	DI / BF distance image basic functions

measuring accuracy

application condition	measuring accuracy [cm]
	typical value
sunny (~120 klx)	± 15
cloudy (~20 klx)	± 10
darkness	± 5
software variant :	DI / BF distance image basic functions